

CLAIMS

1. A rotary cutter bit for imparting a profile to a workpiece comprising:
 - a body formed with an axial length and having an outer surface and an outer edge;
 - 5 at least one cutting knife formed with a profile edge carried by the body;
 - a shank carried by the body adapted for mounting the cutter bit to a motor;
 - at least one chip box formed in the body; and
 - the body defining at least one hole extending from the outer surface and in communication with the at least one chip box whereby the at least one hole has a leading end and a trailing end.
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2. The rotary cutter bit as defined in claim 1 in which the leading end of the at least one hole communicates with the outer surface of the body and the trailing end of the at least one hole communicates with the chip box.
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3. The rotary cutter bit as defined in claim 1 in which the at least one hole is cylindrical.
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4. The rotary cutter bit as defined in claim 1 in which a bearing is attached to the body opposite the shank.

5. The rotary cutter bit as defined in claim 1 in which the shank extends outwardly from the body.

6. The rotary cutter bit as defined in claim 1 in which there are a plurality of 5 cutting knives, each of which is formed with a profile edge; in which a chip box is associated with each cutting knife; and in which at least one hole is associated with each chip box and extends from the outer surface of the body and is in communication with the associated chip box whereby each hole has a leading end and a trailing end.

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7. The rotary cutter bit as defined in claim 1 in which the at least one chip box includes a leading surface from which the at least one hole extends.

15 8. The rotary cutter bit as defined in claim 7 in which the leading surface is planar.

9. The rotary cutter bit as defined in claim 1 in which at least one groove is formed in the body along the outer surface of the body and extends circumferentially at least partially around the body.

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10. The rotary cutter bit as defined in claim 9 in which the at least one groove communicates with the leading end of the at least one hole.

5 11. The rotary cutter bit as defined in claim 9 in which the at least one groove terminates at one of the cutting knife and the outer edge of the body.

12. The rotary cutter bit as defined in claim 9 in which the at least one groove terminates partially at the cutting knife and partially at the outer edge of the body.

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13. The rotary cutter bit as defined in claim 9 in which there are a plurality of cutting knives, each of which is formed with a profile edge; in which a chip box is associated with each cutting knife; in which at least one hole is associated with each chip box and extends from the outer surface of the body and is in communication with the associated chip box whereby each hole has a leading end and a trailing end; and in which one groove communicates with each hole and extends to one of a cutting knife not associated with said chip box and the outer edge of the body adjacent a cutting knife not associated with said chip box.

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20 14. The rotary cutter bit as defined in claim 9 in which the at least one groove is fluted.

15. The rotary cutter bit as defined in claim 9 in which the body is formed with an axis of rotation.

5 16. The rotary cutter bit as defined in claim 15 in which the at least one groove is angularly oriented relative to the axis of rotation.

17. The rotary cutter bit as defined in claim 16 in which the angular orientation is constant.

10 18. The rotary cutter bit as defined in claim 16 in which the angular orientation is variable.

15 19. The rotary cutter bit as defined in claim 16 in which the angularly oriented at least one groove is inclined in a range from 5 degrees to 90 degrees.

20. The rotary cutter bit as defined in claim 16 in which the angularly oriented at least one groove is inclined in a range from 10 degrees to 65 degrees.